



Value Addition in Loose Flowers

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Any effort taken to raise the value of a raw commodity between harvesting and final product sales is referred to as value-addition. It can be done in traditional or creative ways, boosts the economic value and consumer appeal of floricultural items. Thus, value addition is a phase in the manufacturing process that improves the product for the consumer and leads to a higher net worth. Value-added products increase returns, develop new markets, build brand recognition, and diversify agricultural operations. Adding value is more valuable than a raw product, therefore businesses can be very rewarding. Essential oils, floral craft or items in the shape of hair adornments or garlands, natural dyes, and so on are many ways of adding value to loose flowers that have the potential to flourish as a cottage economy that empowers women while also having a high export potential. India is second in the world for essential oil production. The availability of raw materials, cost effectiveness, and usability of the result are all significant factors to consider when producing value-added products for commercial usage. Apart from cultivating and selling flowers, there are several entrepreneurial opportunities in the floriculture trade for rural people.

VALUE ADDITION IN LOOSE FLOWERS

- 1) Loose flower crafts
- 2) Essential oil
- 3) Plant pigments: Natural dye
- 4) Proceed products of flowers
- 5) Resin Art

1. LOOSE FLOWER CRAFTS

Loose flower craft refers to the art of creating various decorative or artistic items using loose flowers, petals, and other floral materials. It allows for creative expression and provides an opportunity to showcase the beauty of fresh flowers in unique ways. Here are a few examples of loose flower craft:

- A. Flower Garlands:** Flower garlands are commonly made by stringing together fresh flowers, creating a vibrant and fragrant accessory. They are used in religious ceremonies, weddings, and festive celebrations as adornments for statues, altars, or for adorning people. Jasmine, Marigold, Spider lily, Crossandra are generally used to make garlands.
- B. Flower Crowns:** Flower crowns are popular accessories made by attaching flowers to a base, such as a flexible wire or a woven vine. They are worn on the head and are commonly used in weddings, festivals, and photo shoots, adding a touch of natural elegance.

- C. Floral Wreaths:** Floral wreaths are circular arrangements created by affixing flowers, leaves, and other natural materials to a strong base, such as a wire or a foam ring. They can be customized for various occasions and used as beautiful items for doors, walls, or as memorials.
- D. Flower Mandalas:** Mandalas are intricate circular patterns created using loose flowers and petals. They are often made on the ground or on a flat surface and can be large or small in size. Flower mandalas are used in spiritual practices, meditation, or as temporary artworks during special events.
- E. Flower Pounding:** Flower pounding is a technique where fresh flowers or petals are pounded onto fabric or paper to transfer their natural dyes and create colorful patterns. The resulting fabric or paper can be used for textile crafts, scrapbooking, or creating unique designs.
- F. Flower Mandap:** In Indian weddings, a flower mandap is a temporary structure decorated entirely with fresh flowers. The mandap serves as a sacred space for the wedding ceremony, and the use of loose flowers allows for intricate and elaborate designs to be created.



2. ESSENTIAL OIL

Essential oils are concentrated volatile aromatic compounds produced by plants. They are made up of different compounds like alcohols, hydrocarbons, phenols, aldehydes, esters and ketones. An oil is “essential” in the sense that it carries a distinctive scent or essence of the plant. They are extracted from flowers, leaves, stems, roots, seeds, wood and bark. It is generally extracted by distillation, though other methods like expression and solvent extraction are also used.

Important flowers yielding essential oils

- A. Rose:** About 10 tons of rose oil is produced in the world out of which Bulgaria produces more than 5 tonnes. India produces a very small amount of rose oil, which does not exceed 10 kg. Constituents of rose oil are citronellol (40-65%), nerol, geraniol, linalool, eugenol etc. Recovery and yield of *Rosa damascena* is 1 kg/4000 kg of flowers, when extracted in industrial still.
- B. Jasmine:** Jasmine is the most important perfumery raw material used since the beginning of human. The word ‘Jasmine’ is derived from Persian word ‘yasmyn’ meaning ‘fragrance’. Egypt is the largest producer of jasmine oil. Main constituents are benzyl acetate, benzyl benzoate, geraniol, eugenol, indole and nerol etc.

C. **Tuberose:** About 30,000 kg loose flower of *Polianthes tuberosa* give 27.5 kg of concrete and it gives 5.50 kg absolute. Generally, 1 kg concrete is obtained from 1150 kg of flowers. Oil is used on heavier types of scents and also used in non-alcoholic beverages, ice cream, candy, baked goods etc. France is the largest producer of tuberose perfume.

3. PLANT PIGMENTS: NATURAL DYE

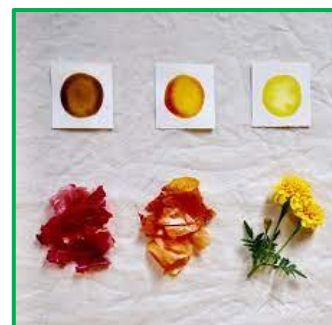
Pigment is a chemical compound that absorbs certain wavelengths of visible light and reflects others, resulting in the perception of colour. Pigments are artificial and natural both. Plants have natural pigments which is found from a plant tissues such as flowers, leaves and fruits, is a result of presence of a wide range of different kinds of plant pigments. Major pigments like Carotenoids, Anthocyanin, Chlorophylls, Anthoxanthins, Flavones & Betalains responsible for flower and leaf colour.

Benefits of natural dye

- Natural dyes are non-toxic and eco-friendly.
- It can safely be used for flavoring and as additives of food particularly in meat canning, manufacture of soft drinks, sauces, ice creams, dairy products and cosmetic accessories etc.
- It have beneficial effects on skin and also serves antioxidants in food industry.
- It is also used for colouring textiles, ayurvedic drugs and pharmaceutical preparations and other consumer items.
- Consumption of a diet rich in plant pigments may slow the process of cellular aging and reduce the risks of some types of diseases, such as cancer, heart disease and stroke as per recent research.

4. PROCEED PRODUCTS OF FLOWERS

A. **Product from rose:** Rose is the most popular flower not only as cut flower, loose flower but also for value addition. Some interesting value added products based on damask rose are given below:



- Rose water:** Rose water is used in the preparation of food products and medicines. It is also used on social, cultural and religious occasions. It is prepared by distillation method. Farmers are willing to adopt the water vapor distillation method. The main reason for this is that such method is cheaper and popular among the farmers. The distillation apparatus is made up of 20 gauge sheet of copper in which 40-50 kg flowers can be filled. It has three parts; Distillation flask, Main parts consists of many tubes and collecting pot. For distillation, rose flowers and water in a ratio of 1/3 are boiled for 2 to 2.5 hours to get distilled water. This distilled water should be stored for 2-3 months for maturation of its fragrance.
- Gulkand:** It is a delicious and nutritive preserved product of rose petals. Selected rose petals should be properly washed with clean water. After cleaning and washing, 1 kg rose petals should be mixed well with 1.5 kg sugar either by hand or crushing with wooden hammers. Thereafter, it should be filled in the glass jar or stainless steel pan. These filled jars put in sun light for one month. The gulkad is ready for consumption after maturation for about one month.
- Dried rose petals:** It is prepared by drying of rose flowers. To get good quality product plastic tunnel solar drier could be used for drying the flowers. After drying the flowers, the dried petals are collected and packed in polythene bags of appropriate size. The polythene bags should be sealed before storage. The dried rose packets should be stored at cool and dry places. It is used in the preparation of coldrinks and beverages.

B. Floral Tea

Flower tea, also known as floral tea or blossom tea, is a type of tea that is made by infusing dried flowers or flower buds in hot water. Unlike traditional tea, which primarily uses leaves from the *Camellia sinensis* plant, flower tea focuses on the aromatic and flavorful properties of various flowers.

The flowers of the Clitoria plant contain natural pigments called anthocyanins, which give them a vibrant blue color. When steeped in hot water, these flowers release the pigments, resulting in a blue-colored tea. However, add an acidic ingredient like lemon juice or lime juice to the tea, it changes color and turns into a beautiful shade of purple due to the pH change. Sometimes rose petals is also adding.

In addition to its striking color-changing properties, Clitoria herbal tea is also known for its potential health benefits. It is often claimed to have antioxidant properties and is said to support brain health, improve cognitive function, and enhance memory. However, it's important to note that scientific research on the specific health benefits of Clitoria herbal tea is limited, and more studies are needed to validate these claims.

C. Floral Juice

Floral juice refers to a beverage made by extracting the flavors and aromas of various flowers and combining them with other ingredients, such as fruits, water, sweeteners, and sometimes herbs or spices. It is a type of juice that highlights the floral characteristics of flowers, offering a unique and fragrant taste experience. Hibiscus, rose, clitoria, jasmine etc. are used for making floral juice.

Hibiscus juice is a beverage made from the petals or calyx (the base of the flower) of the hibiscus plant, specifically from the species *Hibiscus sabdariffa*. It is known for its vibrant red color, tart flavor, and potential health benefits. To make hibiscus juice, the dried petals or calyx of the hibiscus flower are typically steeped in hot water to extract the flavors and vibrant color. The liquid is then strained, and sweeteners like sugar or honey may be added to balance the tartness. Some variations of hibiscus juice may also include other ingredients such as spices or citrus fruits to enhance the flavor profile.

Hibiscus juice is often associated with potential health benefits. It is rich in antioxidants, particularly flavonoids, which can help protect against oxidative stress and inflammation. Hibiscus juice is also believed to support cardiovascular health by helping to lower blood pressure and cholesterol levels.

5. RESIN ART

Resin art is an art as well as there is a science behind it. It is emerging as one of the lucrative business opportunities in metro cities of India. This art helps in preserving eternity. Flowers, seeds, leaves and small berries are preserved for a long time of period and best models for gifting. Resin art offers a wide range of creative possibilities, and artists can explore various styles and techniques to achieve different results.

Epoxy resin is a type of thermosetting resin that is derived from petroleum and consists of two main components: epoxy resin and a curing agent (often a hardener). When these two components are mixed together in the correct proportions, a chemical reaction occurs, resulting in a cross-linking process called curing or polymerization. This reaction causes the mixture to transform from a liquid state into a solid, rigid material.

